	Application No.	Applicant(s)
Notice of Allowability	10/055,276	NELSON ET AL.
	Examiner	Art Unit	
	Ponnoreay Pich	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/14/2005*.

2. ☒ The allowed claim(s) is/are *1 and 11-25*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

           International Bureau (PCT Rule 17.2(a)).
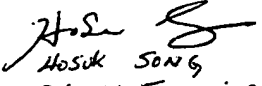
     * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

     Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *01172006*

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Hosuk Song
primary Examiner
Art Unit 2135

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marisa Dubuc on 1/17/2006. Note the amendment to the specification is because applicant's amendments sent on 11/14/2005 appeared to have been sent via fax and was difficult to read. The amendments to the claims are to fix 112, second paragraph problems and to make independent claim 1 allowable by incorporating allowable subject matter from claims 11 and 17 which are allowable. Claims 6-7 were cancelled. New claims 23-25 are added. Thus, claims 1 and 23-25 are the system version of claims 11-14. The application has been amended as follows:

IN THE SPECIFICATION, REPLACE PARAGRAPH 30 WITH:

[0030] Assuming for purposes of illustration that execution of F1 and F2 resulted in a valid sequence, a third formula (F3) is initiated at step 322 as follows.

F3: $(\Delta X1 + \Delta Y1 + \Delta X2 + \Delta Y2 + \ldots + \Delta X_{(n-1)} + \Delta Y_{(n-1)})/(2*(n-1)) >= S$

or $(F1+F2)/2 >= S.$

Therefore, in the example of the second password 'Ap_5ple', F3: $(28/6+5/6)/2=2.75$

or

F3: $(1+9+1+0+0+6+1+6+1+1+1+6)/(2*6)=33/12=2.75$

IN THE CLAIMS, REPLACE THE FOLLOWING CLAIMS WITH THE FOLLOWING:

Claim 1 (Currently Amended):

A network system for determining trivial keyboard sequences of a proposed password, comprising:

a user system;

a computer keyboard input device associated with said user system;

a server in communication with said user system via a communications link;

a data storage device coupled to said server, said data storage device housing:

a database including a keyboard profile wherein said keyboard profile specifies a physical layout of character and function keys on said computer keyboard input device;

a master password database including a user account associated with said user system; and

a password verification mechanism executable by said server;

wherein, upon execution, said password verification mechanism performs an algorithm on said proposed password, said algorithm including a first formula, comprising:

$(\Delta X1 + \Delta X2 + ... + \Delta X_{(n-1)})/(n-1) > 0;$

wherein:

X represents data coordinate of each character of said proposed password on an X axis of the keyboard profile;

n represents the number of characters comprising said proposed password; and

$\Delta X1$ represents an absolute value of a difference between a first and second data coordinate on said X axis;

and wherein further data coordinates are plugged into said first formula for determining vertical triviality.

Claims 6-7 (Canceled).

Claim 11 (Currently Amended):

A method for determining keyboard triviality of proposed passwords over a network system, comprising:

receiving a request for a proposed password from a user system;

retrieving user account data related to said user system;

checking said proposed password against existing password quality rules stored in a master password database, wherein a requester of said proposed password is redirected to select an alternative password if said checking results in an unacceptable password;

providing a keyboard profile associated with said user system, said keyboard profile including a unique identifier;

performing an algorithm on said proposed password, said algorithm including a first formula, comprising:

$$(\Delta X1 + \Delta X2 + ... + \Delta X_{(n-1)})/(n-1) > 0;$$

wherein:

X represents data coordinate of each character of said proposed password on an X axis of the keyboard profile;

n represents the number of characters comprising said proposed password; and

$\Delta X1$ represents an absolute value of a difference between a first and second data coordinate on said X axis;

and wherein further data coordinates are plugged into said first formula for determining vertical triviality.

Claim 12 (Currently Amended):

The method of claim 11, wherein said algorithm includes a second formula executable upon successful completion of said first formula, comprising:

$$(\Delta Y1 + \Delta Y2 + ... \Delta Y_{(n-1)})/(n-1) > 0;$$

wherein:

Y represents data coordinate of each character of said proposed password on a Y axis of the keyboard profile;

n represents the number of characters comprising said proposed password; and

$\Delta Y1$ represents an absolute value of a difference between a first and second data coordinate on said Y axis;

and wherein further data coordinates are plugged into said second formula for determining horizontal triviality.

Claim 13 (Currently Amended):

The method of claim 11, wherein said algorithm includes a third formula, comprising:

$(\Delta X1 + \Delta Y1 + \Delta X2 + \Delta Y2 + ... + \Delta X_{(n-1)} + \Delta Y_{(n-1)})/(2(n-1)) >= S;$

wherein:

X represents data coordinate of each character of said proposed password on an X axis of the keyboard profile;

Y represents data coordinate of each character of said proposed password on a Y axis of the keyboard profile;

n represents the number of characters comprising said proposed password;

$\Delta X1$ represents an absolute value of a difference between a first and second data coordinate on said X axis;

$\Delta Y1$ represents an absolute value of a difference between a first and second data coordinate on said Y axis; and

S represents a variable parameter representing a mean distance between character keys of proposed passwords;

and wherein further data coordinates are plugged into said third formula for determining diverse keystroke patterns of said proposed password.

Claim 17 (Currently Amended):

A storage medium encoded with machine-readable computer program code for determining keyboard triviality of proposed passwords over a network system, the storage

medium including instructions for causing said computer network to implement a method comprising:

receiving a request for a proposed password from a user system;

retrieving user account data related to said user system;

checking said proposed password against existing password quality rules stored in a master password database, wherein a requester of said proposed password is redirected to select an alternative password if said checking results in an unacceptable password;

providing a keyboard profile associated with said user system, said keyboard profile including a unique identifier;

performing an algorithm on said proposed password, said algorithm including a first formula, comprising:

$$(\Delta X1 + \Delta X2 + ... + \Delta X_{(n-1)})/(n-1) > 0;$$

wherein:

X represents data coordinate of each character of said proposed password on an X axis of the keyboard profile;

n represents the number of characters comprising said proposed password; and

$\Delta X1$ represents an absolute value of a difference between a first and second data coordinate on said X axis;

and wherein further data coordinates are plugged into said first formula for determining vertical triviality.

Claim 18 (Currently Amended):

The storage medium of claim 17, wherein said algorithm includes a second formula executable upon successful completion of said first formula, comprising:

$$(\Delta Y1 + \Delta Y2 + ... \Delta Y_{(n-1)})/(n-1) > 0;$$

wherein:

Y represents data coordinate of each character of said proposed password on said Y axis;

n represents the number of characters comprising said proposed password; and

ΔY1 represents an absolute value of a difference between a first and second data coordinate on said Y axis;

and wherein further data coordinates are plugged into said second formula for determining horizontal triviality.

Claim 19 (Currently Amended):

The storage medium of claim 17, wherein said algorithm includes a third formula, comprising:

$$(\Delta X1 + \Delta Y1 + \Delta X2 + \Delta Y2 + ... + \Delta X_{(n-1)} + \Delta Y_{(n-1)})/(2(n - 1)) >= S;$$

wherein:

Y represents data coordinate of each character of said proposed password on said y axis;

n represents the number of characters comprising said proposed password;

ΔX1 represents an absolute value of a difference between a first and second data coordinate on said X axis;

ΔY1 represents an absolute value of a difference between a first and second data coordinate on said Y axis; and

S represents a variable parameter representing a mean distance between character keys of proposed passwords;

and wherein further data coordinates are plugged into said third formula for determining diverse keystroke patterns of said proposed password.

Claim 23 (New):

The network system of claim 1, wherein said algorithm includes a second formula executable upon successful completion of said first formula, comprising:

$$(\Delta Y1 + \Delta Y2 + ... \Delta Y_{(n-1)})/(n - 1) > 0;$$

wherein:

Y represents data coordinate of each character of said proposed password on a Y axis of the keyboard profile;

n represents the number of characters comprising said proposed password; and

$\Delta Y1$ represents an absolute value of a difference between a first and second data coordinate on said Y axis;

and wherein further data coordinates are plugged into said second formula for determining horizontal triviality.

Claim 24 (New):

The network system of claim 23, wherein said algorithm includes a third formula, comprising:

$(\Delta X1 + \Delta Y1 + \Delta X2 + \Delta Y2 + ... + \Delta X_{(n-1)} + \Delta Y_{(n-1)})/(2(n-1)) >= S;$

wherein:

X represents data coordinate of each character of said proposed password on an X axis of the keyboard profile;

Y represents data coordinate of each character of said proposed password on a Y axis of the keyboard profile;

n represents the number of characters comprising said proposed password;

$\Delta X1$ represents an absolute value of a difference between a first and second data coordinate on said X axis;

$\Delta Y1$ represents an absolute value of a difference between a first and second data coordinate on said Y axis; and

S represents a variable parameter representing a mean distance between character keys of proposed passwords;

and wherein further data coordinates are plugged into said third formula for determining diverse keystroke patterns of said proposed password.

Claim 25 (New):

The network system of claim 24, wherein successful completion of said algorithm causes the password verification mechanism to:

transmit acceptance of said proposed password to at least one of:

said user system;

an administrator system; and

update the password database to reflect said acceptance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ponnoreay Pich whose telephone number is 571-272-7962. The examiner can normally be reached on 9:00am-4:30pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PP